



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,336	02/28/2002	Dieter Kerner	39509-177800	5608
26694	7590	08/12/2005		
VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20045-9998			EXAMINER ROBERTSON, JEFFREY	
			ART UNIT	PAPER NUMBER

1712

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/084,336

Applicant(s)

KERNER ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: In the specification on pages 3 and 4, under f) and g) in the definition of R''', what does "A" mean?

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deller et al. (U.S. Patent No. 5,776,240) in view of Mangold et al. (CA 2,223,377).

For claim 3, in column 1, line 48, through column 2, line 5, Deller teaches that pyrogenically prepared silicon dioxide is silanized with alkoxy silanes, silazanes, and or siloxanes. For claims 3, 8, and 9, Deller teaches in column 4, lines 15-28, that octamethylcyclotetrasiloxane is used as the siloxane for silanizing the silicon dioxide. For claims 4, 6, and 7, Deller teaches in column 10, lines 28-35, that the granules are sprayed with water prior to being treated with silanizing agent, treated with the silanizing agent, allowed to mix for 15 to 30 more minutes, and then heated for 1 to 4 hours at 100

Art Unit: 1712

to 400°C. Deller fails to teach that the pyrogenically produced oxides are doped by aerosol.

Mangold teaches pyrogenically produced oxides that are doped, including silicon dioxide on page 3, lines 18-22. On page 2, lines 5-22, Mangold teaches that the oxides are doped by aerosol.

Mangold and Deller are analogous art in that they come from the same field of endeavor, namely the use of pyrogenically prepared oxides as catalyst supports. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the oxides in the treatment process of Deller. The motivation would have been that Mangold states that the doped pyrogenically prepared oxides have advantages over the non-doped oxides on page 15, lines 8-16. These advantages are in the form of larger cohesive structures, increased sediment volume, and a greatly increased efficiency value. One of ordinary skill in the art would have been motivated by the improvement in these properties in using the doped oxides of Mangold.

Deller in view of Mangold does not specifically disclose that the oxides have sufficient hydrophobic character with permits rapid dissolution in organic systems at high concentrations. However, this appears to be an inherent property of the surface-modified oxides.

4. Claims 3, 5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laüfer et al. (U.S. Patent No. 4,022,152) in view of Mangold et al. (CA 2,223,377).

For claims 3, 5, 8, and 9, in column 8, lines 57-61, Laüfer teaches a pyrogenic silicic acid (SiO_2) is treated with octamethyltetrasiloxane. For claim 5, in column 3, lines

Art Unit: 1712

59-68, Laüfer discloses that the fillers produced are used in silicone rubbers for a greater thickening effect. Laüfer fails to teach that the pyrogenic silica is doped by aerosol. In col. 4, lines 39-43, Laüfer teaches that the treated fillers have hydrophobic character and are highly dispersed.

Mangold teaches pyrogenically produced oxides that are doped, including silicon dioxide on page 3, lines 18-22. On page 2, lines 5-22, Mangold teaches that the oxides are doped by aerosol.

Mangold and Laüfer are analogous art in that they come from the same field of endeavor, namely the use of pyrogenically prepared oxides as fillers. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the oxides in the treatment process of Laüfer. The motivation would have been that Mangold states that the doped pyrogenically prepared oxides have advantages over the non-doped oxides on page 15, lines 8-20 including an increase in thickening effect. One of ordinary skill in the art would have been motivated by the improvement in thickening effect in substituting the doped oxides of Mangold for the oxides used in Laüfer.

Response to Arguments

5. Applicant's arguments filed 5/26/05 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. §103(a) of claims 3, 4, and 6-9 as being unpatentable over Deller et al. (U.S. Patent No. 5,776,240) in view of Mangold et al. (CA 2,223,377), applicant argues that Deller and Mangold do not disclose that the oxides

Art Unit: 1712

have sufficient hydrophobic character with permits rapid dissolution in organic systems at high concentrations. The examiner agrees that these references do not specifically disclose this advantage. However, as set forth above, the examiner's position is that these advantages would be inherent to the surface-modified oxides. In addition, the references themselves, particularly the Mangold reference, provide sufficient motivation, which need not be the same as applicant's, as detailed in the above rejection. The examiner has not relied on applicant's specification to arrive at the present combination of references. In addition, Mangold teaches that these oxides can be used as fillers, and therefore they are useful in polyester resins. See page 4, lines 11-12 of Mangold.

In addition, applicant argues that there is no aerosol disclosed in Deller. The examiner agrees that this is the case. However, the Mangold reference is relied upon for this teaching. Therefore, the rejection under 35 U.S.C. §103(a) of claims 3, 4, and 6-9 as being unpatentable over Deller et al. (U.S. Patent No. 5,776,240) in view of Mangold et al. (CA 2,223,377) is continued.

Regarding the rejection under 35 U.S.C. §103(a) of claims 3, 5, 8, and 9 as being unpatentable over Laüfer et al. (U.S. Patent No. 4,022,152) in view of Mangold et al. (CA 2,223,377), applicant argues that neither reference suggests the advantages now set forth by applicant in the claims. The examiner disagrees in view of the cited disclosure of Laüfer set forth in the rejection above. The references themselves, particularly the Mangold reference, provide sufficient motivation, which need not be the same as applicant's as detailed in the above rejection.

Art Unit: 1712

In addition, applicant argues that it is not clear if the properties originally possessed by either reference would be maintained in the proposed composite. First, it is noted that applicant is not claiming a composite in claim 3, but a surface-modified oxide. Second, there is no reason to lead one of ordinary skill in the art to the conclusion that the properties possessed would not be maintained through the above detailed combination. The references themselves provide sufficient motivation as detailed in the above rejection. The examiner has not relied on applicant's specification to arrive at the present combination of references. One of ordinary skill in the art is not required to have "assurances of success". Only a reasonable expectation of success is required. Therefore, the rejection under 35 U.S.C. §103(a) of claims 3, 5, 8, and 9 as being unpatentable over Laüfer et al. (U.S. Patent No. 4,022,152) in view of Mangold et al. (CA 2,223,377) is continued.

Regarding the 1.132 Declaration of 5/26/05, the experiments presented therein are not persuasive. Specifically, the results shown in Tables 5 and 6 show the differences between the treated and untreated fillers. Applicant emphasizes the difference between the hydrophilic untreated fillers and the hydrophobic treated fillers in terms of concentration that may be worked into silicone rubber. In addition, applicant emphasizes the high resistance to tear propagation and high transparency of the vulcanized products according to Example 6. Although applicant states that these results would have been unexpected, it is not explained why this is so. The examiner's position is that having treated the fillers, it would have been expected that the fillers would have been more easily dispersed in the polymer matrix due to the increased

Art Unit: 1712

hydrophobicity of the filler. See Laüfer col. 4, lines 39-43. It therefore follows that the resistance to tear propagation and transparency of the vulcanized products would be improved because of the more uniform polymer matrix. Regarding the Transparency expressed in Example 6, this one example is not sufficient to provide evidence of unexpected results over the entire scope of the claims. See Example 5 where the transparency is not nearly as high as in Example 5. Therefore, the Declaration is not persuasive.

Conclusion

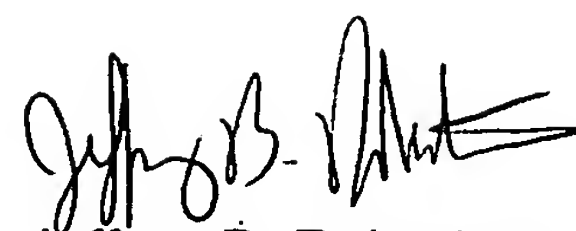
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/084,336
Art Unit: 1712

Page 8

A handwritten signature in black ink, appearing to read "Jeffrey B. Robertson", with a stylized flourish at the end.

Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR